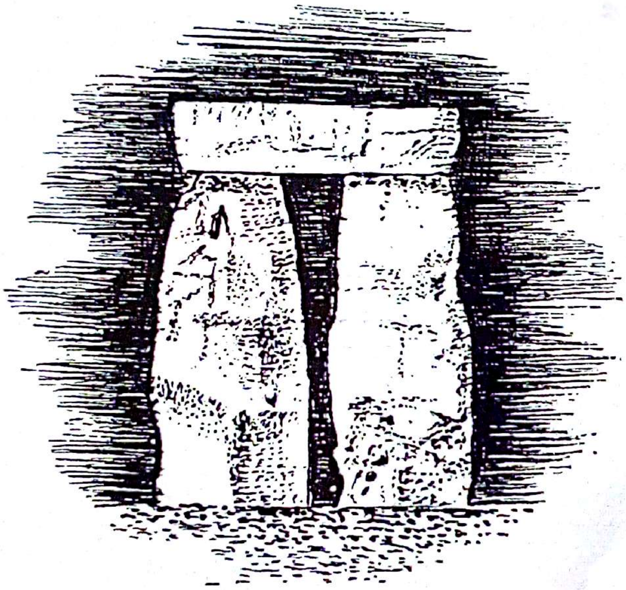
Ministry of Public Building and Works

STONEHENGE
AND
AVEBURY

AND NEIGHBOURING MONUMENTS



An Illustrated Guide

Text by R. J. C. Atkinson
Professor of Archaeology, University College, Cardiff

Cover picture and reconstruction drawings by Alan Sorrell

Maps and plans by Reitz

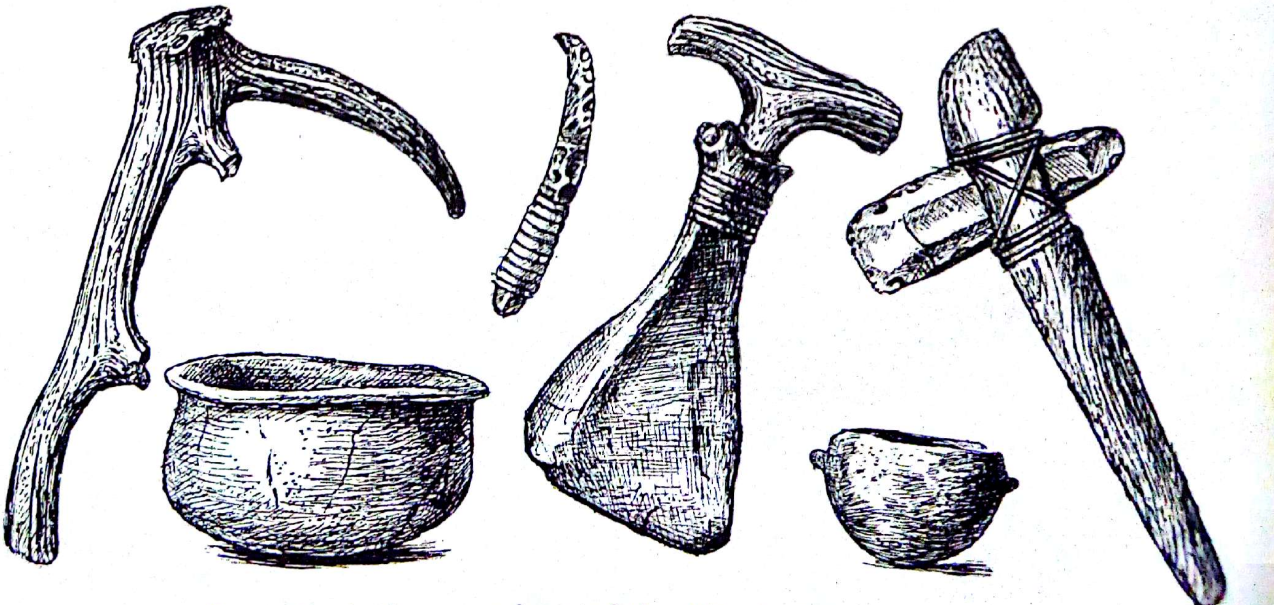
LONDON
HER MAJESTY'S STATIONERY OFFICE
1959

The People and the Monuments

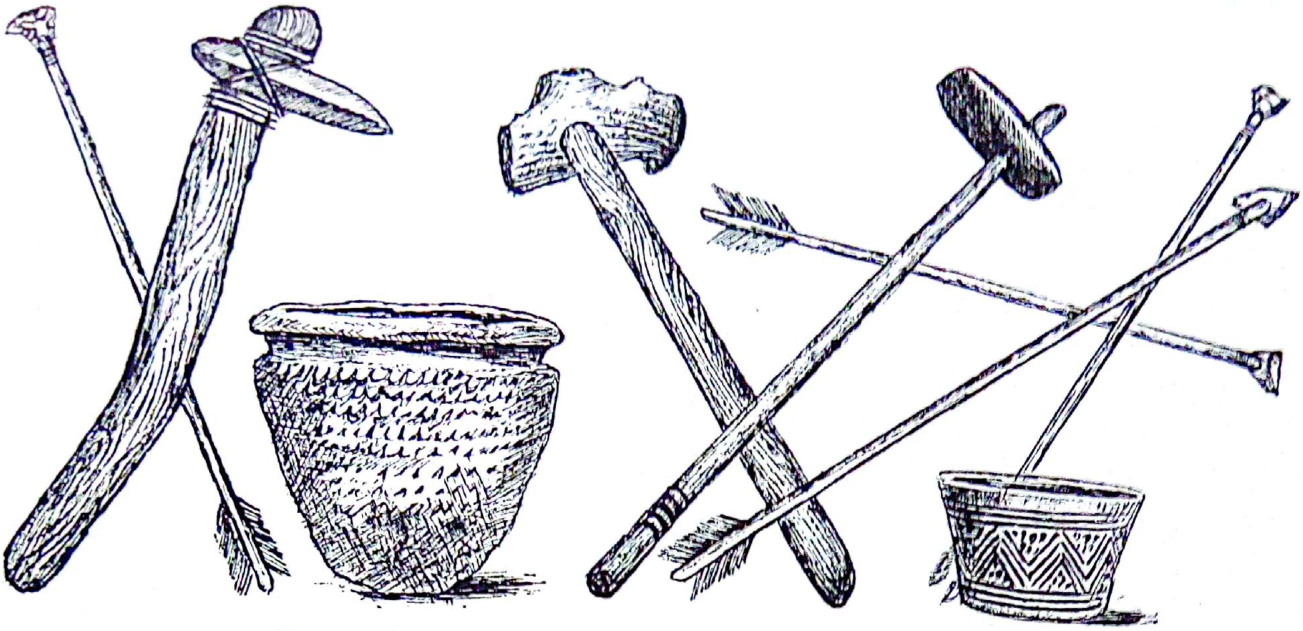
All the monuments described in this Guide belong to the Neolithic period (or New Stone Age) and to the earlier part of the Bronze Age; or, in round figures, between 2400 and 1400 B.C. Apart from the causewayed camps like Windmill Hill (page 54) they are all connected either with religious practices or with the burial of the dead. None of the houses of their builders survives, probably because in the course of the last three or four thousand years all traces of them have been destroyed by the weathering of the soft chalk rock of the district. None the less, from the study of the monuments themselves and of objects found in them, archaeologists have been able to identify several separate communities, each with its own traditions, which occupied Wiltshire during this period and were each responsible for building some of the monuments described.

For many thousands of years, up to about 2400 B.C., the population of the region consisted of scattered bands of roving hunters, living on wild game and wild plants. They grew no crops, had no domesticated animals, and have left behind them nothing but a few examples of their simple stone tools and flint weapons.

About 2400 B.C. southern England was colonised for the first time by farming peoples, who brought with them from the Continent the arts of growing grain and breeding cattle. They settled on the chalk downs of



Some typical possessions of the Windmill Hill people



Secondary Neolithic tools, weapons and pottery

Wessex, leading a simple and apparently peaceful existence in which cattle-herding was supplemented by the hunting of small game and by the cultivation of a primitive form of wheat on scattered patches of ground, cleared of scrub and tilled with stone hoes and wooden digging-sticks. None of their houses survives for certain in Wiltshire; but elsewhere they seem to have been rectangular log-cabins large enough for a single family only. Their tools and weapons were made of flint, bone and antler, and their clothes were probably of leather. Their round-bottomed baggy pots look like imitations of the kind of leather vessels that would be appropriate for a pastoral people.

These earliest farming colonists are known as the Windmill Hill people, and it is they who built the causewayed camps, like Windmill Hill itself, the earthen Long Barrows, and the Cursus monuments like the one near Stonehenge.

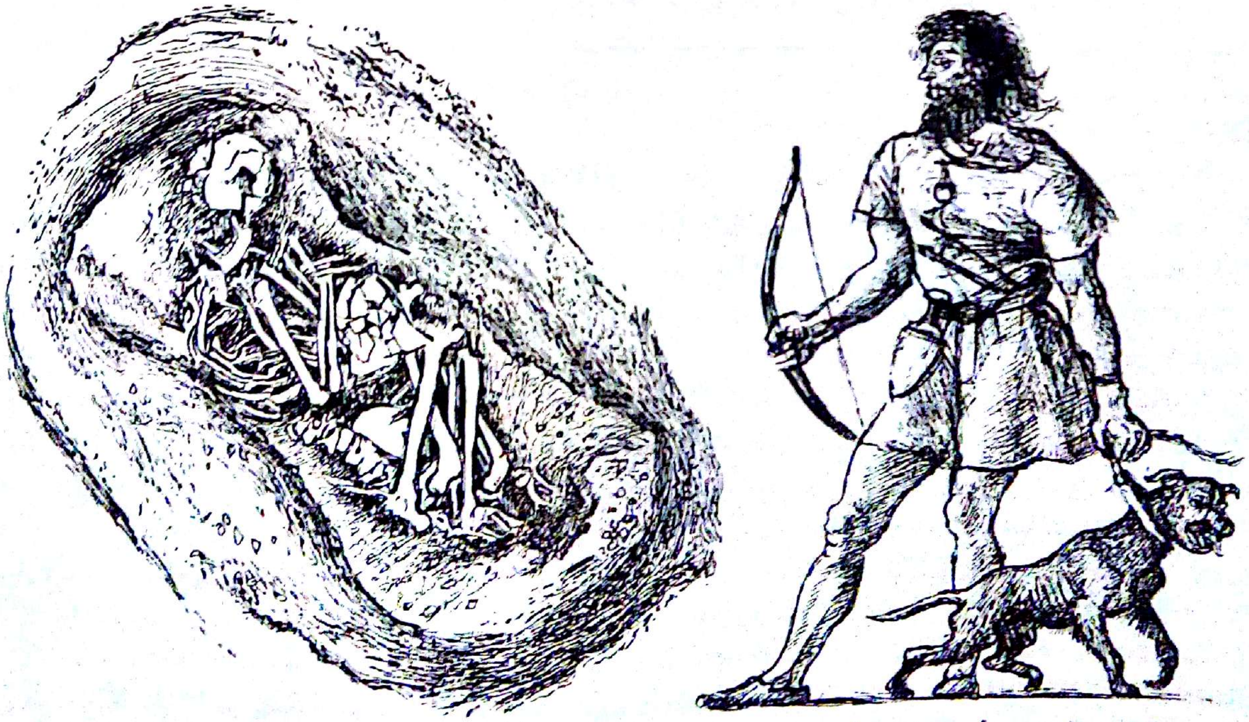
Some centuries afterwards, but probably not later than 2000 B.C., further small groups of settlers crossed from France to south-western England, landing mainly on both shores of the Bristol Channel. These new arrivals brought with them the practice of burying their dead in stone-built tombs under long mounds or cairns; but apart from the tombs themselves they have left no traces, and none of their settlements has been identified. Probably they were few in number and were quickly absorbed by the Windmill Hill people; for most of the pottery and other objects found in the tombs have been of Windmill Hill type.

The tombs themselves are widely distributed in South Wales and on the Cotswolds, with a small but important group in the region round Avebury. The West Kennet Long Barrow is the largest, and probably one of the earliest, of these tombs in Britain; and there can be little doubt that its builders first introduced into Wiltshire the techniques of building with large stones, which were later to be copied by other peoples, on an even larger scale, at Avebury and Stonehenge.

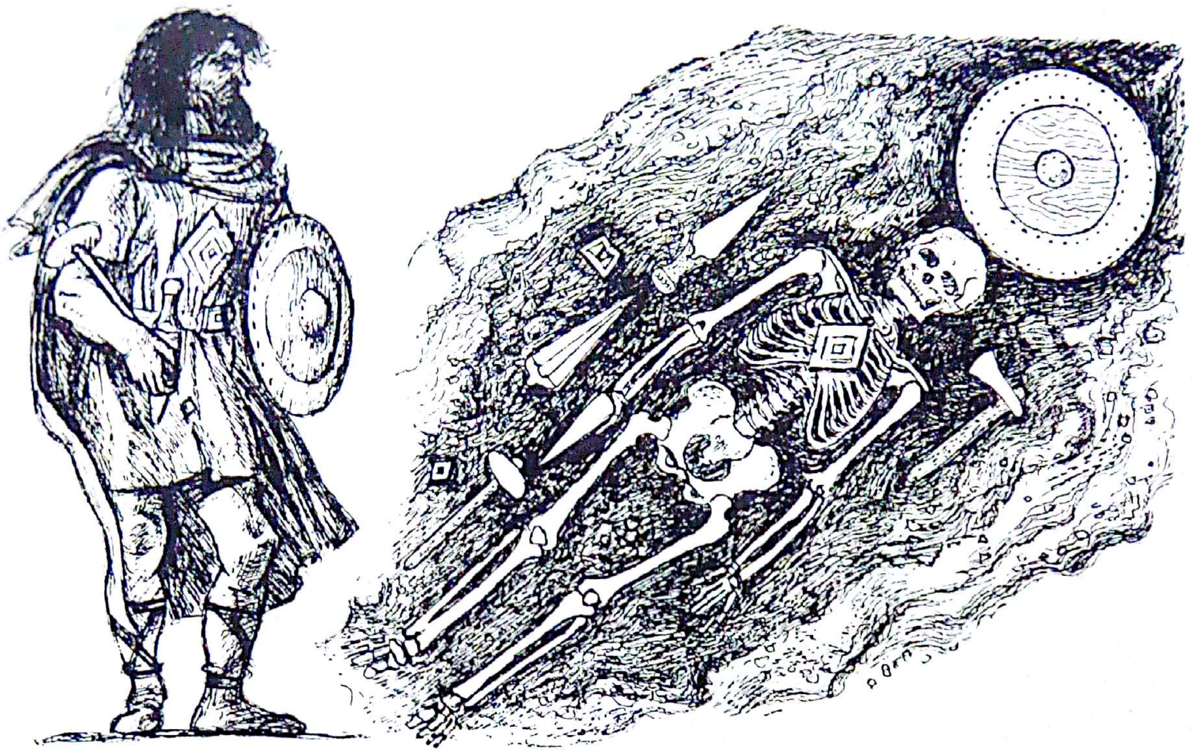
For some time these early immigrants seem to have lived alongside the remnants of the native hunting peoples, without much contact between them, much in the same way that the aboriginal populations of north America and Australia continued to flourish side by side with European settlers. But in time gradual mixing of the native hunters with the immigrant farmers led to the emergence of new and distinct communities, in which the old traditions of hunting and gathering were supplemented by a number of new skills and techniques which were borrowed from the primary colonists, such as stock-breeding, simple agriculture and the making of pottery.

These new communities are known to archaeologists as the Secondary Neolithic peoples. They seem to have been largely nomadic, and no houses are known, though what may have been camping sites have been found between Avebury and West Kennet and on the downs near Stonehenge. They were clearly skilful workers in wood, since it was they who built the roofed temples at the Sanctuary and Woodhenge; and it is these same people who seem to have invented the large open-air sanctuaries, of which Stonehenge I is the finest and the best known.

About 1700 B.C. the peaceful peasant life of southern England was startled and disturbed by the arrival of bands of immigrants from Holland and the Rhineland, known as the Beaker people from the common occurrence of pottery drinking-vessels in their graves. Though relatively few in numbers, they seem to have established themselves as masters over



A Late Neolithic Beaker grave and a Beaker warrior



A Wessex chieftain and an Early Bronze Age burial

the native population, perhaps in part through their possession of the earliest objects of metal, in copper and gold, to have been found in Britain. The main source of these metals lay in Ireland, and one of the Beaker people's chief activities appears to have been the opening up of trade routes between their main areas of settlement, in eastern Britain, and the sources of supply of these precious metals in the west. One of these routes certainly followed the south coast of Wales, and probably accounts for the Beaker traders' familiarity with the Pembrokeshire bluestones which they selected for use at Stonehenge.

The dominant position of the Beaker folk found its expression in the building of a number of great stone circles in Wiltshire, using techniques already introduced by the builders of the West Kennet tomb, and obviously requiring the employment of large bodies of strictly controlled labour. These monuments include the inner circles and Avenue at Avebury, and the double circles at the Sanctuary and Stonehenge II. A little later other groups of Beaker people, reinforced by a second immigration of warriors from northern Europe, seem to have adopted the embanked type of sanctuary of the Secondary Neolithic peoples (such as Stonehenge I and Woodhenge), and to have copied it with certain differences and on an even larger scale. The finest of these Beaker sanctuaries are represented by the great earthworks of the reconstructed Avebury (Avebury II) and Durrington Walls, a ruined site near Woodhenge.

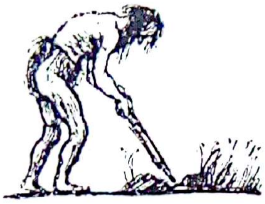
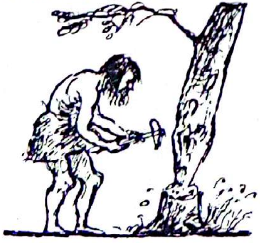
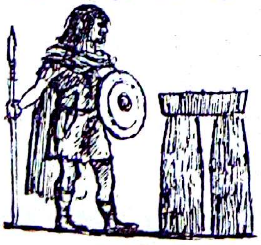
By the time of the Beaker invasions the Primary Neolithic peoples were already beginning to lose their identity and to be absorbed by the Secondary Neolithic communities. For a time these continued to flourish, even though dominated to some extent by the Beaker invaders. But within a century or two the same kind of contact and fusion took place as before, with the emergence of a new and distinctive community in which Beaker and native traditions of life were blended.

To this new community belong the Wessex people of the Early Bronze Age, who owed their great power and wealth, expressed in the rich furnishing of their barrow-burials clustered round Stonehenge and Avebury, to their part in the metal-trade between Ireland and the Continent in the years between 1500 and 1300 B.C. This widespread and profitable trade extended as far as central Europe and Scandinavia, and to the urban civilisations of Crete and Greece. As a result, Britain became for a time more truly a part of Europe than at any later period, until its incorporation in the Roman empire more than a thousand years afterwards. It is against this background of a rich commercial aristocracy, dominated by a dynasty of commanding chieftains, that we must see the building of Stonehenge III.

In this unique building the very size of the stones, and the labour of their transport and erection, imply the strict control of a very large proportion of the local population over a long period of time; and the fusion in its design of the native traditions of the stone circle and the jointed timber building, with the added refinements of contemporary Mediterranean architecture, symbolise the cultural solidarity and the far-reaching commercial influence of this Golden Age of British prehistory.

The following table shows the relationships and development of the various prehistoric communities described above, and the approximate periods at which their monuments were built. The dates, like all dates in prehistory, must be treated as rough guides only.

The objects found in the excavations at Woodhenge, and from the many local barrows explored in the 19th century, can be seen in the Museum of the Wiltshire Archaeological Society in Long Street, Devizes. The finds from Stonehenge, and from some of the more recent barrow-excavations in the neighbourhood, are in the South Wiltshire and Blackmore Museum, St. Ann Street, Salisbury.

DATE	MONUMENTS	PEOPLES	PERIOD
2400 B·C	Windmill Hill	*Native Hunters* *Windmill Hill*	MESOLITHIC EARLY NEOLITHIC
2200 B·C	Long Barrows		
			
2000 B·C	West Kennet Long Barrow	*Tomb Builders*	
	Stonehenge Cursus Woodhenge	*Secondary Neolithic*	LATE NEOLITHIC
1800 B·C	Sanctuary I Stonehenge I		
	Avebury I Sanctuary II	*Beaker*	
1600 B·C	Stonehenge II Avebury II		
	Stonehenge IIIa Stonehenge IIIb	*Wessex*	EARLY BRONZE AGE
1400 B·C	Bell Barrows Stonehenge IIIc Disc Barrows Silbury Hill		
			

Stonehenge

Stonehenge is unique. There is nothing like it anywhere else, and from the earliest times it has aroused the awe and curiosity of its visitors. It was first mentioned, as one of the wonders of Britain, only seventy years after the Norman Conquest; and since then at one time or another almost every people of antiquity have been claimed as its builders.

It is only during the present century that planned archaeological excavations on the site have begun to yield some reliable information about its history and origin. As the result of this work, which has been carried on at intervals since 1901, and culminated in the restoration of some of the fallen stones in 1958, it is now possible to say what the main features of Stonehenge are, and roughly when and in what order they were built.

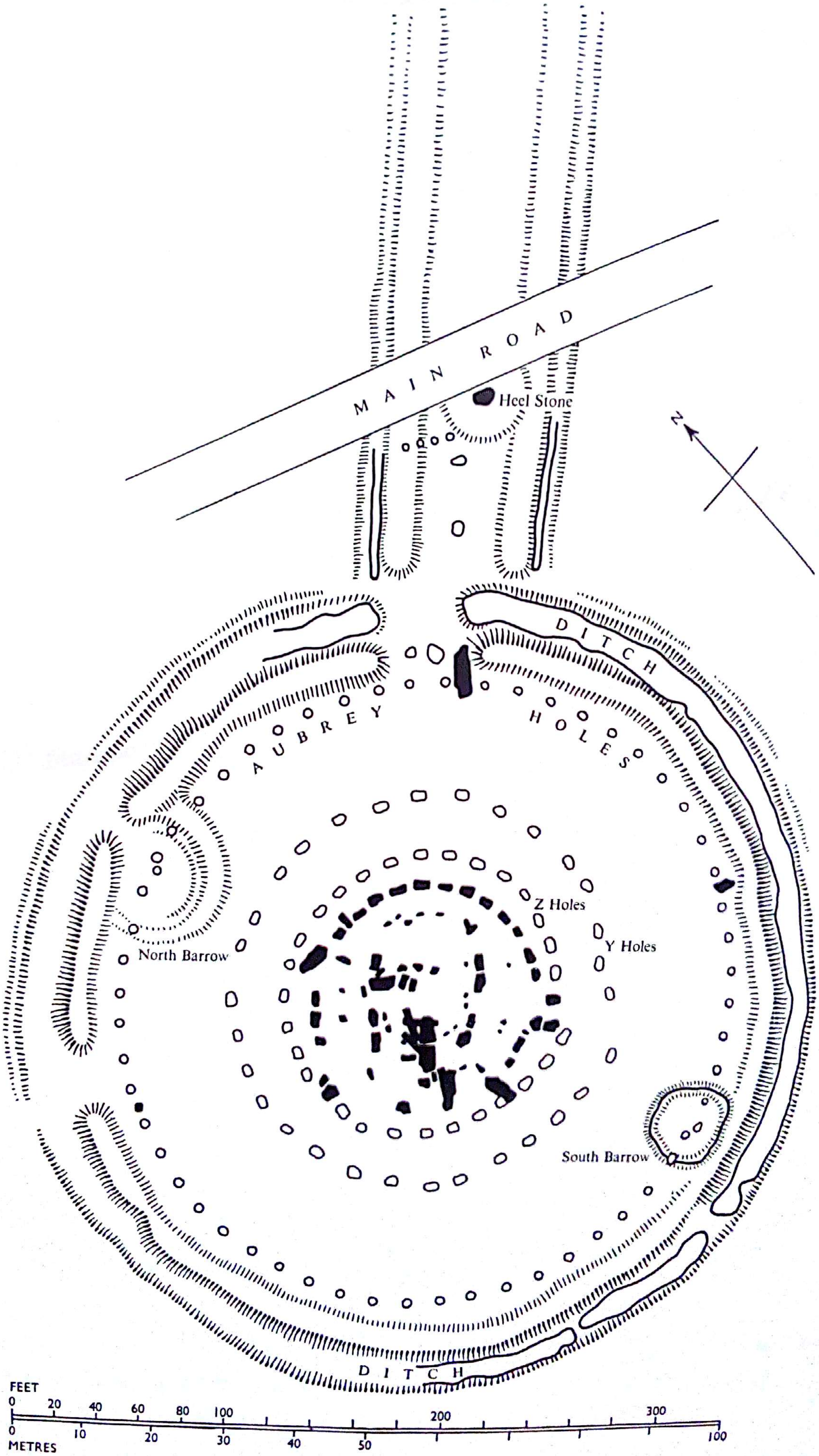
The outer boundary of Stonehenge is the low circular *bank* which lies about 100 ft. outside the stones. Originally it stood about 5 ft. high and was built of chalk rubble quarried from the *ditch* immediately outside it. In the course of centuries most of it has slipped back, obscuring the very irregular outlines of the ditch, which originally consisted simply of a number of rough quarry-pits strung together. One half of the circuit of the ditch was excavated soon after the First World War, and was only partly re-filled.

The earthwork is broken by a broad *entrance-gap* on the north-east side, and by various smaller gaps elsewhere, some of which are modern. From the entrance the *Avenue*, bounded by a small bank and ditch on either side, runs downhill across the main road, and eventually leads to the bank of the River Avon at West Amesbury, about two miles away. Within the Avenue, close to the road, stands the *Heel Stone*, with traces of a circular ditch surrounding its base.

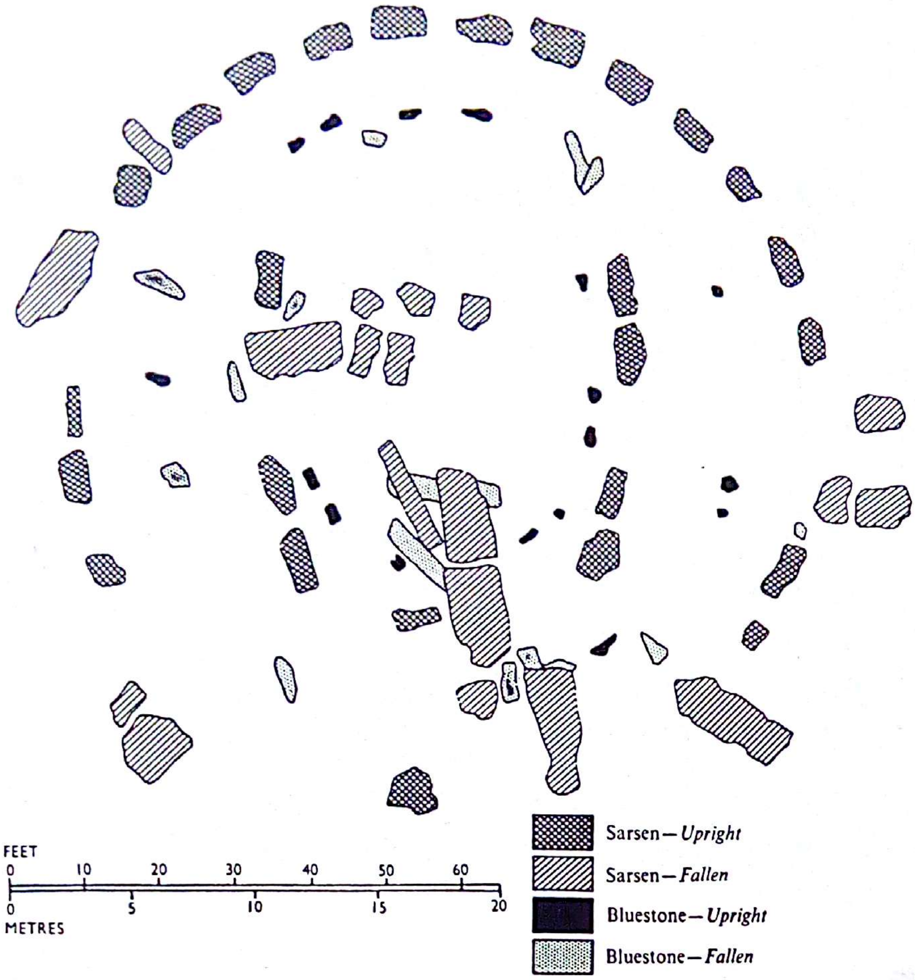
Just inside the bank is a ring of 56 pits, now filled up, which are known as the *Aubrey Holes* after their discoverer John Aubrey (1626–97). About half of them have been excavated and are marked by patches of white chalk on the surface.

At the entrance of the earthwork is a large fallen stone, known as the *Slaughter Stone*. It originally stood upright on its outer end, and together with a similar stone, now vanished, formed a ceremonial doorway to the site. Further round the earthwork, on the line of the Aubrey Holes, are two smaller stones known as the *Station Stones*; and two similar stones, now vanished, also stood within the bank on the north and south sides, each surrounded by a small circular ditch.

The standing stones in the centre consist of two main kinds of rock. The larger blocks and their lintels, as well as the Station Stones, Slaughter Stone and Heel Stone, are all of *sarsen*, a kind of natural sandstone which


MAIN ROAD
Heel Stone
N
DITCH
AUBREY
HOLES
Z Holes
Y Holes
North Barrow
South Barrow
DITCH
FEET
0
20
40
60
80
100
200
300
0
10
20
30
40
50
100
METRES

Plan of Stonehenge. The stones are marked in black



Plan of the stones as they are today

occurs as huge boulders on the surface of the Marlborough Downs, about 20 miles north of Stonehenge. The smaller stones, known as the *Bluestones*, are of several kinds of blue-coloured rock which were fetched by the builders from the Prescelly Mountains in south-west Wales.

The *Sarsen Circle*, about 100 ft. in diameter, consisted originally of 30 uprights, each weighing about 25 tons, capped by a continuous ring of 30 lintels weighing about 7 tons. Inside it was a horseshoe of five *Sarsen Trilithons*, each trilithon consisting of a pair of huge uprights, weighing up to 45 tons, capped by a massive lintel.

Apart from the Heel Stone and the eastern Station Stone, all the sarsens have been carefully dressed to shape by pounding their surfaces with stone hammers. The uprights are slightly 'dished' on the top to provide a secure seating for the lintels, and projecting tenons worked on them fit into corresponding hollow mortice-holes on the undersides of the lintels. In addition, the lintels of the outer circle are fitted to each other with tongue-and-groove joints.

The *Bluestone Circle*, now very ruined and incomplete, stands inside the sarsen circle. Originally it consisted of about 60 stones, set close together.

Only two of the surviving stones have been dressed to shape. Both of them had formerly been used as lintel-stones.

The *Bluestone Horseshoe* stands inside the sarsen horseshoe, and originally had 19 stones, which increased in height towards the centre. All of them have been dressed to shape, and two bear traces on their tops of projecting tenons, which have been almost battered away. Another has a dished top, like the sarsen uprights, and the adjacent upright has a groove worked all down one side. This stone must once have fitted another with a corresponding tongue, which now survives only as a stump below the surface.

At the focus of the bluestone horseshoe is the *Altar Stone*, a dressed block of sandstone from the shores of Milford Haven in Pembrokeshire, about 16 ft. long. It is now buried in the ground beneath the fallen stones of the great sarsen trilithon, but it probably stood upright as a pillar originally.

In addition to these visible features, two settings of pits were discovered during excavations and are not marked on the surface. The *Y and Z Holes* lie about 36 ft. and 12 ft. respectively outside the sarsen circle. There are 30 pits in the Y ring and only 29 in the Z ring. One Z hole on the west side lies beneath a fallen sarsen, and another to the south-east is missing altogether. The *Q and R Holes* form the ends of a series of dumb-bell-shaped trenches, arranged radially, which lie beneath the line of the present bluestone circle. They originally held the bluestones in two concentric circles about 6 ft. apart.

THE HISTORY OF STONEHENGE

As in many of our later cathedrals and churches, not all the structures we see at Stonehenge today were built at the same time. As a result of the recent excavations, we can now divide the history of Stonehenge into three main periods, covering a span of about four centuries, between 1800 and 1400 B.C.

PERIOD I. The earliest structures were the bank and ditch, the Heel Stone, and the Aubrey Holes. There was probably some kind of wooden gateway or ceremonial arch a little to the west of the Heel Stone, and a pair of small stones in the entrance of the earthwork forming a kind of door. Perhaps, too, there was some small building, or a setting of stones, in the unexcavated area at the very centre. The Aubrey Holes never held any kind of wooden or stone uprights, and though many of the excavated holes were found to contain cremated human bones, they do not seem to have been intended as graves. They were probably dug as part of some religious ceremony.

Similar open-air sanctuaries, though of smaller size, containing a ring of pits with cremated burials, have been discovered near Oxford and near

The Heel Stone seen from the west

Linlithgow in Scotland. All of them, including Stonehenge I, seem to belong to the Late Neolithic period, about 1800 B.C. Unfortunately, apart from the digging of pits, nothing is known about the ceremonies for which they were used.

PERIOD II. About 150 years later than the building of the first Stonehenge, the monument was radically remodelled. At least 80 bluestones, weighing up to four tons apiece, were brought from the Prescelly Mountains in Pembrokeshire and from the shores of Milford Haven in the same county, and were set up in the Q and R Holes, forming a double circle in the centre of the site. This circle had an entrance on the north-east side, marked by additional stones on the inside, and on the opposite side was a large pit, which may have held a stone of exceptional size, such as the present Altar Stone.

The axis of this circle, from the pit through the entrance, pointed towards the sunrise at the summer solstice, on the longest day of the year. In order to make the entrance of the older earthwork fit this new axis, about 25 ft. of the bank on the east side of the entrance gap was thrown back into the ditch, to widen the original causeway. At the same time the Avenue was made, leading up to this entrance from the bank of the River Avon. It probably marks the route by which the bluestones were hauled up to the site. The new Avenue enclosed the Heel Stone, which was now given a kind of symbolic protection by digging a ditch around it; this was almost at once filled up again.

This first bluestone circle at Stonehenge was probably the work of the Beaker people, who colonised Britain from the Continent at the end of the Neolithic period and may possibly have introduced the idea of sky- or sun-worship. The recent excavations have shown that they never completed their work at Stonehenge, since there is a gap in the circle, of unknown extent, on the west side, and two of the flanking stones at the entrance were never set up, though the holes for them had been partially dug. The date of this circle is probably between 1650 and 1500 B.C.

PERIOD IIIa. Not long after 1500 B.C., the rising power and wealth of the Early Bronze Age inhabitants of Wessex found its expression in an even more radical reconstruction of Stonehenge.

The double circle of bluestones, still unfinished, was dismantled and its stones put on one side. In their place over 80 enormous blocks of sarsen stone were dragged from the Marlborough Downs and set up in the lintelled circle and horseshoe of trilithons which we see today, together with the four Station Stones and the gateway formed by the Slaughter Stone and its vanished companion. The axis of this new monument, like that of the circle it replaced, points towards the midsummer sunrise.

This extraordinary building exhibits a number of refinements which do not occur anywhere else among the stone monuments of prehistoric Europe. The squaring and dressing of the stones, their joints, and the elaborate shaping of the lintels, as well as the high degree of accuracy achieved in placing the stones, all point to influence from the urban civilisations of Minoan Crete and Mycenean Greece, in which alone at this time was any sophisticated architecture to be found.

Connections between Britain and the Mediterranean at this period had already been suspected, from the finding in British barrow-burials, some of them close to Stonehenge, of objects imported or copied from Mediterranean sources. In 1953 these connections were dramatically confirmed by the discovery at Stonehenge of carvings of bronze axeheads and a bronze dagger. The axes are all of a type which was made in Ireland and exported to the Continent between 1600 and 1400 B.C.; but the best match for the dagger comes from the Shaft Graves of Mycenae in southern Greece, the legendary home of Agamemnon.

From this and other evidence the erection of the sarsen stones at Stonehenge can be dated soon after 1500 B.C. The architect (for surely the designer of such a building deserves the title) must almost certainly have been a man who was familiar with the buildings of the contemporary urban civilisations of the Mediterranean world.

PERIOD IIIb. Soon after the sarsen stones had been set up, and perhaps as part of the same design, rather more than twenty of the dismantled bluestones were selected, carefully dressed to shape, and erected in an oval setting on the line of the present bluestone horseshoe. Only a few of the stone-holes for this setting have so far been identified, so that its exact plan is still uncertain. But it is clear that it included at least two miniature copies of the great sarsen trilithons, of which the lintels and some of the uprights with traces of tenons still survive, though re-used in a different way. The tongued and grooved bluestones, and the present Altar Stone, must also have formed part of this oval setting.

It seems clear that to complete the monument the builders intended to use the remaining 60 bluestones, which had not so far been dressed to shape; and it is almost certainly to hold these that the two rings of Y and Z Holes were dug. But for some reason, perhaps an unforeseen catastrophe or an unlucky omen, this project was abandoned unfinished. The last few holes to be dug, on the east side, were irregular and incomplete, and no stones were ever set up in any of them. Instead, the whole design was given up, and the oval setting of dressed bluestones in the centre was demolished.

PERIOD IIIc. The final reconstruction of Stonehenge probably followed almost at once. The uprights of the dressed oval structure were re-set in the horseshoe of bluestones we see today, with the tenons of the miniature trilithons battered down and almost obliterated. The two lintels were set up as pillars in the bluestone circle, with their mortices facing outwards so that they could not be seen from the centre. Both of them have since fallen over in different directions, so that the mortices on one of them now lie underground.

The rest of the circle was made up of the undressed bluestones which had earlier been intended for the Y and Z Holes. Originally the total number of stones in this circle must have been at least 60, set quite close together, but most of them have since disappeared.

The largest bluestone of all, the Altar Stone, was probably set up as a tall pillar in front of the central sarsen trilithon and has since fallen down.

The date of this final reconstruction is not known for certain; but it seems likely that all three stages of period III followed closely on one another, and that Stonehenge as we see it today was already complete by 1400 B.C.

Since that date the history of the site is one of damage and destruction. Many stones are now missing altogether, and others survive only as stumps below ground level; while the soil as far out as the car-park is filled with fragments of the stones which have been broken up. Much of this destruction is certainly due to visitors, who delighted in knocking off fragments as keepsakes. Indeed, at one time a hammer could regularly be hired in Amesbury for this very purpose. One must remember, too, that there is no natural building-stone available in the neighbourhood, so that from the Middle Ages onwards Stonehenge must have provided a convenient quarry for local builders. It is known, too, that up to about a century ago the local farmers used regularly to break up the smaller stones for road metal, to repair farm tracks. Many of the bluestones have probably disappeared in this way.

THE MIDSUMMER SUNRISE

From period II onwards, the axis of Stonehenge was arranged to point towards the sunrise on the longest day of the year (21st June). This is a fact; but what it means is uncertain. It may be that the builders of Stonehenge were sun-worshippers, and that the monument as a whole was a temple to the sun. On the other hand, this arrangement may be no more than a practical device for determining, by observation, a fixed point in the year from which the annual calendar could be counted.

It is commonly believed that on 21st June, when today large crowds gather to see the dawn, an observer at the centre of Stonehenge will see the sun rise immediately over the Heel Stone, and that it will cast a shadow of the top of the Heel Stone on the Altar Stone. Neither of these widely held beliefs is correct. Today the midsummer sun rises appreciably to the left of the Heel Stone, and when Stonehenge was built it rose even further to the left; it will not rise *over* the Heel Stone for more than a thousand years. And by the time that the sun has risen far enough to cast any shadow at all, it is prevented from reaching the Altar Stone by stone 1 of the outer circle, which stands in the way.

THE DRUIDS

Ever since it was first suggested, three hundred years ago, that stone circles were Druidical temples, it has been popularly supposed that Stonehenge was built and used by the Druids. Unfortunately there is no foundation for this belief at all. The Druids were a Celtic priesthood which flourished in Britain only during the few centuries before the Roman Conquest. It is very unlikely that there were any Druids in these islands before 250 B.C., and by that time Stonehenge had been built for more than a thousand years and may already have been partly in ruins.

The names given to two of the stones, the Altar Stone and the Slaughter Stone, are popularly connected with the idea of human sacrifice. But they were invented, by over-imaginative antiquaries, only during the last three centuries, and there is no evidence at all for supposing that human sacrifice was practised at Stonehenge at any time during its long history.

The Avenue

The Stonehenge Avenue (picture on page 35) provides a formal approach to the monument, and links it by an indirect route to the bank of the River Avon at West Amesbury.

From the entrance of the Stonehenge earthwork it follows the line of the axis, running past the Heel Stone to cross the main road, and continuing downhill for about a third of a mile, to the bottom of a dry valley. Its line can be traced by the growth of ranker grass and thistles along the ditches. It then swings sharply to the east and climbs the opposite slope to pass between the two prominent beech-woods on the skyline. There it swings gradually south-eastwards behind the nearer wood and descends the long slope to the river, crossing the main road again a little to the west of the turning to West Amesbury.

The Avenue probably marks the route by which the bluestones were hauled up from the river to Stonehenge. There is nothing else exactly like it, but it may have been copied in part from the nearby Cursus and in part from the avenues of standing stones which form the approaches to Avebury and a few other stone circles in other parts of Britain.

Only the stretch of the Avenue nearest to Stonehenge can now be made out on the ground. The rest of its course has long since been obliterated by cultivation, and was only re-discovered by air-photography in 1923.

The Cursus

This extraordinary earthwork lies about half a mile north of Stonehenge. It consists of a narrow enclosure, a mile and three-quarters in length and a hundred yards in width, bounded on either side by a low bank and ditch, like those of the Avenue. Just beyond its east end are the remains of a Long Barrow, on which the Cursus was evidently aligned. Most of its course has now been obliterated by ploughing, and there is little to be seen on the ground.

More than a dozen similar earthworks are known elsewhere in Britain, the longest of which extends for six miles. Their purpose is entirely unknown, but the most likely explanation is that they were processional ways used in some religious ceremony and perhaps connected with the cult of the dead, since a number of them are associated with Long Barrows and similar burial-places. They seem to belong to the Late Neolithic period, and the Stonehenge example was probably built at much the same time as the first monument at Stonehenge itself.

Woodhenge

Woodhenge lies about two miles north-east of Stonehenge, by the side of the main road from Amesbury to Marlborough (A.345). It was discovered by air-photography and excavated in 1928.

The outer boundary of the site consisted of a large circular bank, now almost flattened by ploughing, with a steep-sided flat-bottomed ditch inside it, about 6 ft. deep. The earthwork was broken by a single entrance-causeway on the north-north-east side.

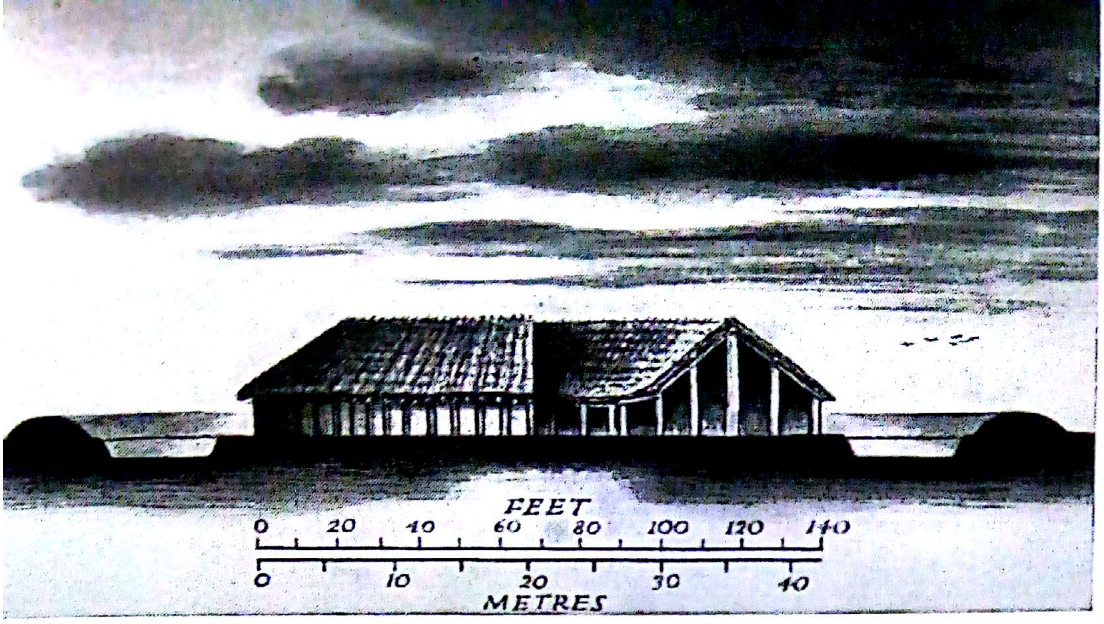
Within the ditch the excavators found six concentric rings of circular holes for wooden posts whose rotted stumps still survived in many cases. Their positions are now marked by concrete blocks, which give some idea of the original diameters of the posts.

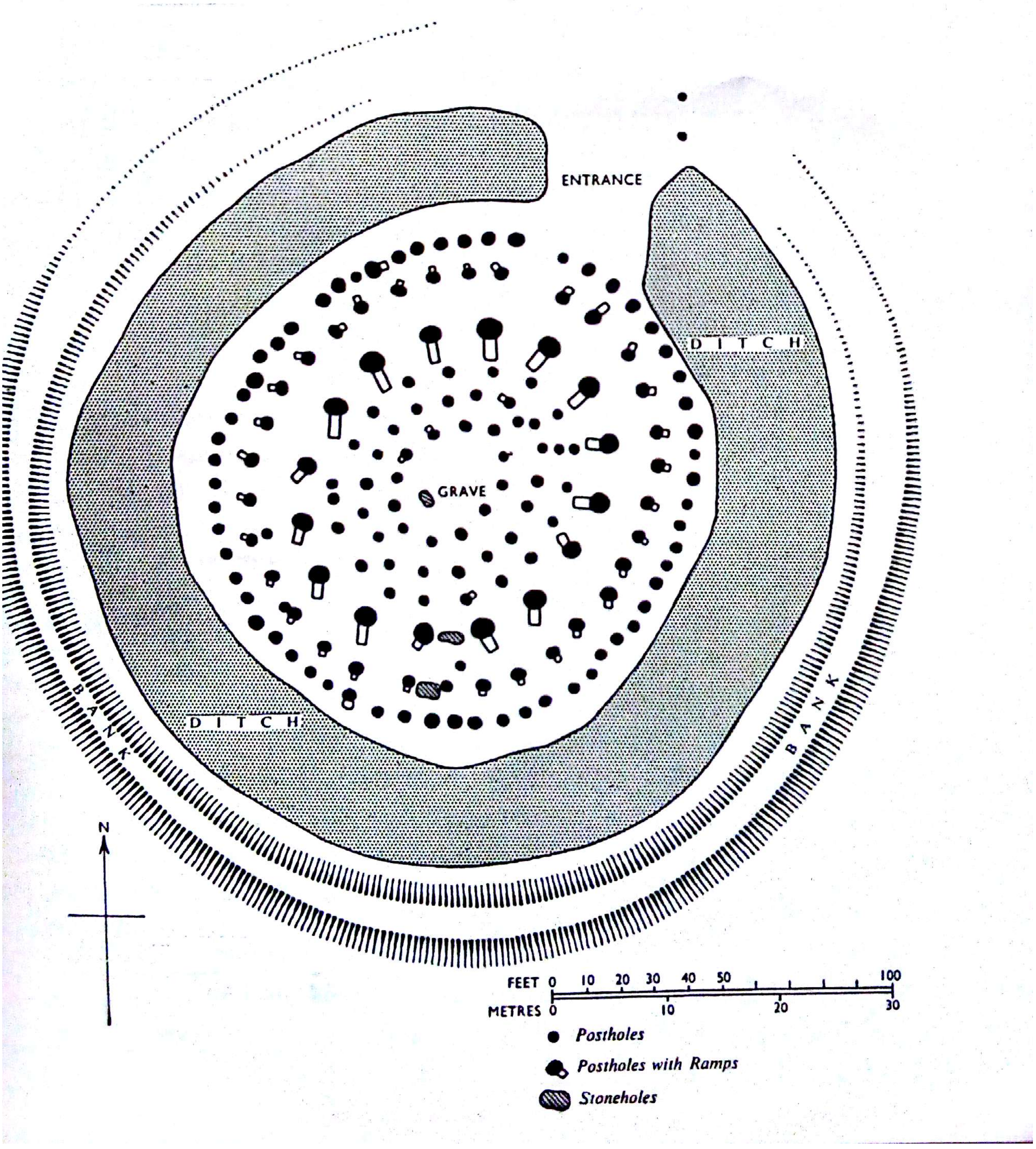
Since nothing survived above ground, we can only guess what the remains represent. The most sensible explanation is that the posts formed the upright framework of a roofed building, like a huge barn bent round upon itself into a circle, leaving a space open to the sky in the centre.

The settings of posts are oval in plan, and the long axis of these ovals points in the direction of the midsummer sunrise, like the axis of Stonehenge. But the entrance here is not on the same line, and corresponds with the gap in the earthwork. This may mean that the earthwork was built first and the building within it added at a later date.

WOODHENGE

The plan opposite shows the rings of post-holes which the excavators found inside the remains of the earthwork. The larger holes have ramps running into them, to make it easier to erect the posts. How the posts were used is merely guess-work, but they make sense best as the framework of a circular building. The thickest and highest timbers would support the ridge of the roof, while the eaves would rest on thinner and shorter posts on the inside and outside, leaving an open light-well in the centre. A reconstructed elevation of the building is shown above the plan on the right. Apart from the Sanctuary near Avebury (*described on page* 50) this is the only large prehistoric building in Britain to be made of wood.


FEET
0 20 40 60 80 100 120 140
0 10 20 30 40
METRES


ENTRANCE
DITCH
GRAVE
DITCH
BANK
BANK
N
FEET 0 10 20 30 40 50 100
METRES 0 10 20 30
● Postholes
Postholes with Ramps
▨ Stoneholes

On the axis, to the south-west of the centre, the excavators found a grave (now marked by a small cairn of flints) containing the body of a child about three years old, whose skull had been split before burial. This was evidently a dedicatory deposit, and is one of the very few pieces of evidence for human sacrifice in prehistoric Britain. South of this burial, in the second ring from the outside, there was a hole for an upright stone, now marked by an oblong block of concrete.

Scraps of pottery and other objects found during the excavations show that Woodhenge was built by the Secondary Neolithic people, who seem also to have been responsible for Stonehenge I. Since little or no domestic rubbish was found, it was clearly not a house; but beyond this we can only guess at its purpose. The most probable explanation is that it was a temple or a place of public meeting.

The Barrows

The region immediately round Stonehenge contains more prehistoric barrow-burials than any other area of the same size in Britain, and this concentration, like the grouping of graves round a church, must reflect the great sanctity of the district from Neolithic times onwards.

Many of the barrows are grouped in cemeteries, often strung out in a straight line. The most striking of these cemeteries lie on Normanton Down, on the sky-line about half a mile south of Stonehenge; and just north of the Winterbourne Stoke cross-roads, which is a mile and a half south-west of Stonehenge on the main road to Exeter (A.303).

These cemeteries evidently cover a long period of time, during which changes took place in the shape of the barrows and the ritual of burial. The earliest type is the *Long Barrow*, the burial-place of the Windmill Hill people. These were long mounds of chalk rubble quarried from a ditch on either side, covering at one end a number of bodies buried at the same time. There is a particularly fine example at the south end of the Winterbourne Stoke group, nearest the cross-roads.

Most of the burials in these cemeteries are in *bowl barrows*, simple circular mounds, sometimes with a ditch immediately outside the edge of the mound. This type of burial, for a single person only, was introduced by the Beaker people and continued in use throughout the Bronze Age. In addition there are examples of two much rarer kinds of barrow, both of which seem to have been used by the Wessex people of the Early Bronze Age, the builders of Stonehenge III. *Bell barrows* have large mounds separated from the surrounding ditch by a flat platform, and sometimes a bank outside the ditch as well. They usually contain the burials of men, sometimes accompanied by weapons and ornaments which suggest that they were warrior-chieftains. There is a fine example a short distance east of Stonehenge, close to the main road to Amesbury.

Disc barrows, on the other hand, are almost always women's graves. They consist of a flat circular area bounded by a ditch with a bank outside it, only a small tump at the centre marking the actual burial. Good examples can be seen in the Winterbourne Stoke group and on the crest of Normanton Down on either side of the track leading from Stonehenge.

Avebury

The great earthwork and stone circles of Avebury, lying among the elm trees on the edge of the water-meadows of the Kennet valley, form the centre of a unique group of early prehistoric monuments in north Wiltshire, just as on Salisbury Plain a similar group clusters round Stonehenge. Yet, in spite of its far greater size, Avebury has never attracted as much notice as Stonehenge. The first account of it dates only from a visit made by the antiquary John Aubrey in 1646; and it was hardly known at all to the general public until 1743, when William Stukeley published his book *Abury*. Since then excavations have been carried out here and on other neighbouring sites at various times, culminating in the extensive restoration of half of Avebury by the late Mr. Alexander Keiller from 1934 to 1939. During this work a number of buried stones were found, which were set up in their original positions; and the sites of other stones which had vanished were marked with concrete blocks.

The main features of Avebury are the great surrounding earthwork and the various settings of great stones which it encloses. The earthwork consists of a roughly circular ditch, originally cut with steep sides and a flat bottom, which is now everywhere silted up to at least half its former depth. The chalk rubble dug out of the ditch was piled in a great bank on its outer side, and was originally separated from the ditch by a flat shelf or platform about 15 ft. wide. The inner edge of the bank was retained by a rough wall of chalk blocks, which has long since decayed.

There are four entrances through the earthwork, where the modern roads now run. Three of these are known to be original features, and the fourth, on the east side, is almost certainly an original entrance as well, though it has not yet been tested by excavation.

Just within the inner lip of the ditch stand the remains of the Great Circle of upright stones of which there were about 100 originally. Many of them are very large, and the heaviest weigh over 40 tons. All of them, and all the other stones at Avebury, are natural blocks of sarsen stone hauled from the neighbouring downs; and unlike the stones of Stonehenge they have not been dressed to shape. It seems likely, however, that the builders deliberately selected the stones for their shape, since they are mostly of two forms, a tall pillar with vertical sides and a broad diamond or lozenge, standing on one corner. The largest stones were placed flanking the entrances. Two of them survive at the south entrance, and the huge stone by the side of the Swindon road at the north entrance is doubtless the survivor of another pair.

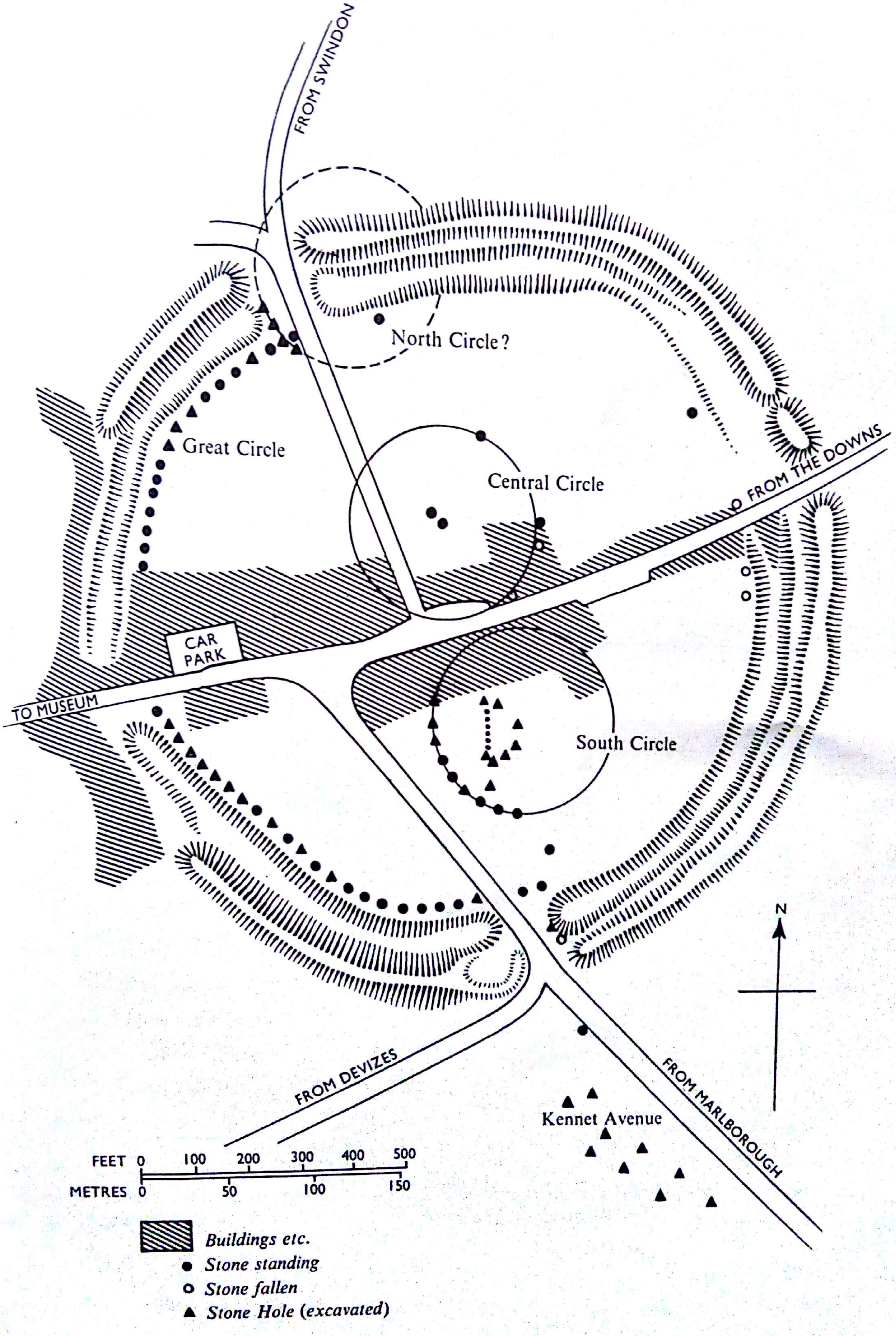
Within the great circle are the remains of several smaller settings of stones. The *Central Circle* was originally about 320 ft. in diameter, and contained 30 stones of which only four now survive. At its centre was the *Cove*, consisting of three huge stones arranged on three sides of a square. Only two of them are now standing. Similar coves, whose purpose is likewise unknown, are associated with other stone circles at Stanton Drew in Somerset and Arbor Low in Derbyshire.

The *South Circle* was slightly larger, and contained 32 stones. Five of these survive, and the positions of four more are marked with concrete pillars. At the centre was a huge upright, 21 ft. long, which was still visible, though fallen, in the 18th century. To the west of the centre was a curious arrangement of smaller stones (known for convenience as the *Z Stones*), forming a straight line with extra stones set back from its ends; while outside the circle to the south, between it and the ditch, the excavators found the stump of an isolated stone, called the *Ring Stone*, which until its destruction in the 18th century was perforated by a natural hole.

Just to the west of the northern entrance of the earthwork, the excavations revealed the holes for three stones, now marked with concrete, which obviously did not belong to the Great Circle. These may represent the remains of a former *North Circle*, of roughly the same size as the other two. But as no further holes were found on the continuation of the same arc northwards, it is probable that this circle was never completed. In any case it must have been dismantled before the great earthwork was built.

Leading away from the south entrance of Avebury, the visitor will see the stones of the *Kennet Avenue*, which originally ran for about a mile southwards, passing the village of West Kennet and ending at the Sanctuary on Overton Hill. The northern third of the Avenue was excavated before the recent war, and the positions of the missing stones were marked in concrete. Of the rest of its course very few stones are now visible.

The junction of the Avenue with the earthwork is awkwardly arranged, and looks like an afterthought on the part of the builders; and there is other evidence for a change in plan. Most of the stones in the central part of Avebury, and in the main part of the Avenue, are packed round their bases with small boulders and with clay brought from the banks of the Kennet near by; but there are a number of stone-holes also in which the packing-blocks are of hard chalk which can only have come from the bottom of the great ditch. On this evidence the building of Avebury can be divided into two periods.


FROM SWINDON
North Circle ?
Great Circle
Central Circle
FROM THE DOWNS
CAR PARK
TO MUSEUM
South Circle
N
FROM DEVIZES
FROM MARLBOROUGH
Kennet Avenue
FEET 0 100 200 300 400 500
METRES 0 50 100 150
▨ Buildings etc.
● Stone standing
○ Stone fallen
▲ Stone Hole (excavated)

Plan of the Avebury circles and the Kennet Avenue

Avebury I consisted of the Central and Southern Circles, and perhaps the unfinished North Circle, together with the main part of the Avenue, which stopped short of the circles and did not point directly towards them. In the reconstruction which forms *Avebury II* the North Circle was demolished, and the other two were then surrounded by the bank and ditch, with the Great Circle on its inner edge. At the same time the Ring Stone and the Z Stones were erected near the South Circle, and the former end of the Avenue was joined to the south entrance of the earthwork by additional stones forming a sharp bend.

Both these phases of building were probably the work of the Beaker people of the later Neolithic period, and can be dated between 1700 and 1500 B.C. Two of their graves have been found at the feet of stones in the Avenue, and many broken scraps of their pottery lay in the excavated parts of the monument.

There has been far more destruction of the stones at Avebury than at Stonehenge, and as early as the 14th century a man, apparently a barber-surgeon, was trapped and killed by the sudden fall of a stone which he was helping to demolish. Most of the wrecking was done in the 18th century, to clear the ground for cultivation; and William Stukeley has left us a striking account of how the stones were tipped over a pit filled with burning straw and then smashed to pieces with sledge-hammers.

West Kennet Long Barrow

This chambered tomb, the largest in England and Wales, lies about half a mile south-west of the village of West Kennet. It is reached on foot from the Bath road along a path marked by a finger-post.

The barrow was considerably damaged in the 17th century, and was partially excavated in 1859. The excavation was completed and the tomb restored by the Ministry of Works in 1955-57.

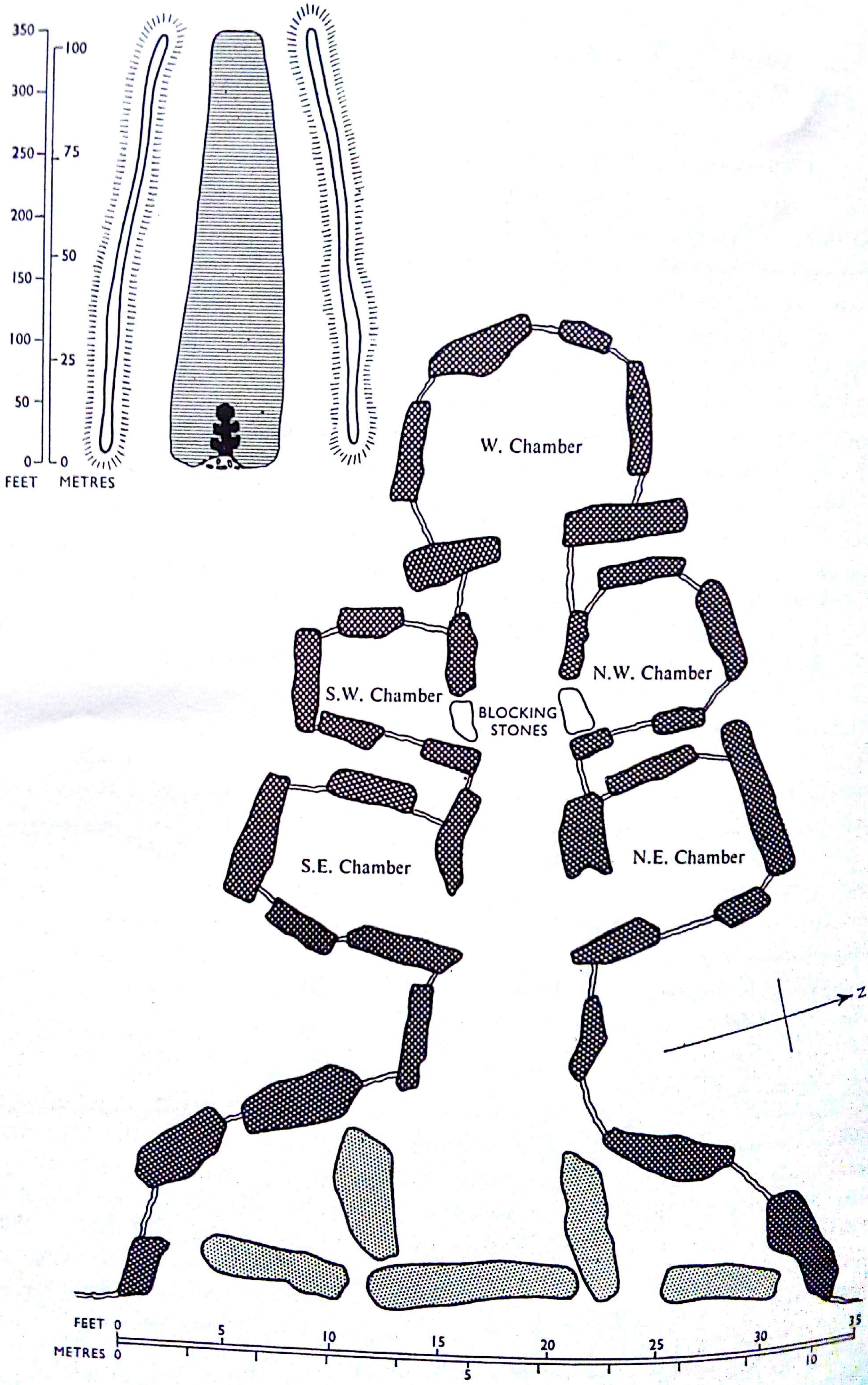
The mound is one of the largest known, measuring 350 ft. in length. It is made of chalk rubble dug out from a ditch on either side, now entirely silted up, piled over a core of sarsen boulders collected from the surface of the surrounding downs. The edge of the mound was originally marked, round the sides and back, by a line of boulders on end, but these have now all disappeared.

The front of the mound at the east end is formed by a façade of large upright stones, with the spaces between them filled with walling of stones brought from seven or eight miles away to the west. In the centre of the façade is a semi-circular forecourt, set back into the mound and bordered by four large slabs set on edge, out of which the tomb chamber opens.

The tomb itself consists of a long passage with two pairs of burial chambers opening off its sides and a larger chamber at the far end. The remains of about thirty skeletons, including ten children, were found on the floors of these chambers, and it is clear that they had been put in the tomb at intervals over a long period of time, the earlier deposits being swept unceremoniously aside to make room for new-comers. A good many bones, and especially skulls, seem to have been taken away while the tomb was still in use.

Pottery vessels deposited with some of these burials show that the tomb was used, though perhaps not built, by the Windmill Hill people. It was probably constructed about 2000 B.C., and continued to be used for at least three centuries.

After the last burial had been made, the whole tomb was blocked up in the most elaborate way. The chambers and passage were filled to the roof with chalk rubble containing numerous fragments of broken pottery and animal bones; and when this had been done the entrance-forecourt was first partially filled with boulders and then sealed off with three huge upright stones in line with those of the façade on either side, the centre stone being supported at the back by two uprights which continue the line of the passage. This final blocking seems to have been carried out by the local communities of Secondary Neolithic and Beaker people, who also built Avebury and the Sanctuary.


350
300
250
200
150
100
50
0
FEET
100
75
50
25
0
METRES
W. Chamber
S.W. Chamber
N.W. Chamber
BLOCKING STONES
S.E. Chamber
N.E. Chamber
N
FEET 0 5 10 15 20 25 30 35
METRES 0 5 10

Silbury Hill

Silbury Hill, the largest artificial mound in Europe, stands on the north side of the Bath road (A.4) between West Kennet and Beckhampton, about six miles west of Marlborough.

The mound is conical, with a total height of about 130 ft., and covers 5½ acres at its base. The top is flat, and a short distance below it the sides are broken by a marked step or shelf, which suggests that the uppermost section of the mound may have been a later addition.

The mound consists of chalk rubble excavated from the huge ditch, now almost entirely silted up, which encircles the northern half of its base and extends outwards in a great bay to the west. It was originally 10 to 16 feet deep, and went down to 21 feet from the surface close to the base of the mound.

Only the upper three-quarters of the height of the mound is actually artificial. The lowest quarter is solid chalk, the remains of a natural spur of downland which here projected northwards into the valley. The mound was built on this spur, and its sides were then cut back to the same slope to give an effect of increased height. The narrower ditch on the south side, crossed by two causeways connecting the mound with the road, has been dug through the neck of the spur.

In 1777 a shaft was sunk from the top to the undisturbed chalk in the centre, and in 1849 a tunnel was driven in from the south to meet the bottom of the shaft; but in neither case was anything significant found. The date and purpose of Silbury Hill remain a mystery. It should perhaps be regarded as the largest of all round barrows, and it may be roughly of the same date as the stones of Stonehenge. All that we can be certain of is that it is earlier than the building of the Roman road from Bath to Marlborough, which is aligned on the mound but swerves to avoid its base.

The Sanctuary

The Sanctuary lies on the south edge of the Bath road (A.4) on the crest of Overton Hill, four and a half miles west of Marlborough. Excavations carried out in 1930, in order to search for the remains of a stone circle which stood here until early in the 19th century, also revealed an earlier series of holes for wooden posts. The stone- and post-holes are now marked by concrete blocks and a coloured plan is displayed on a pillar on the south side.

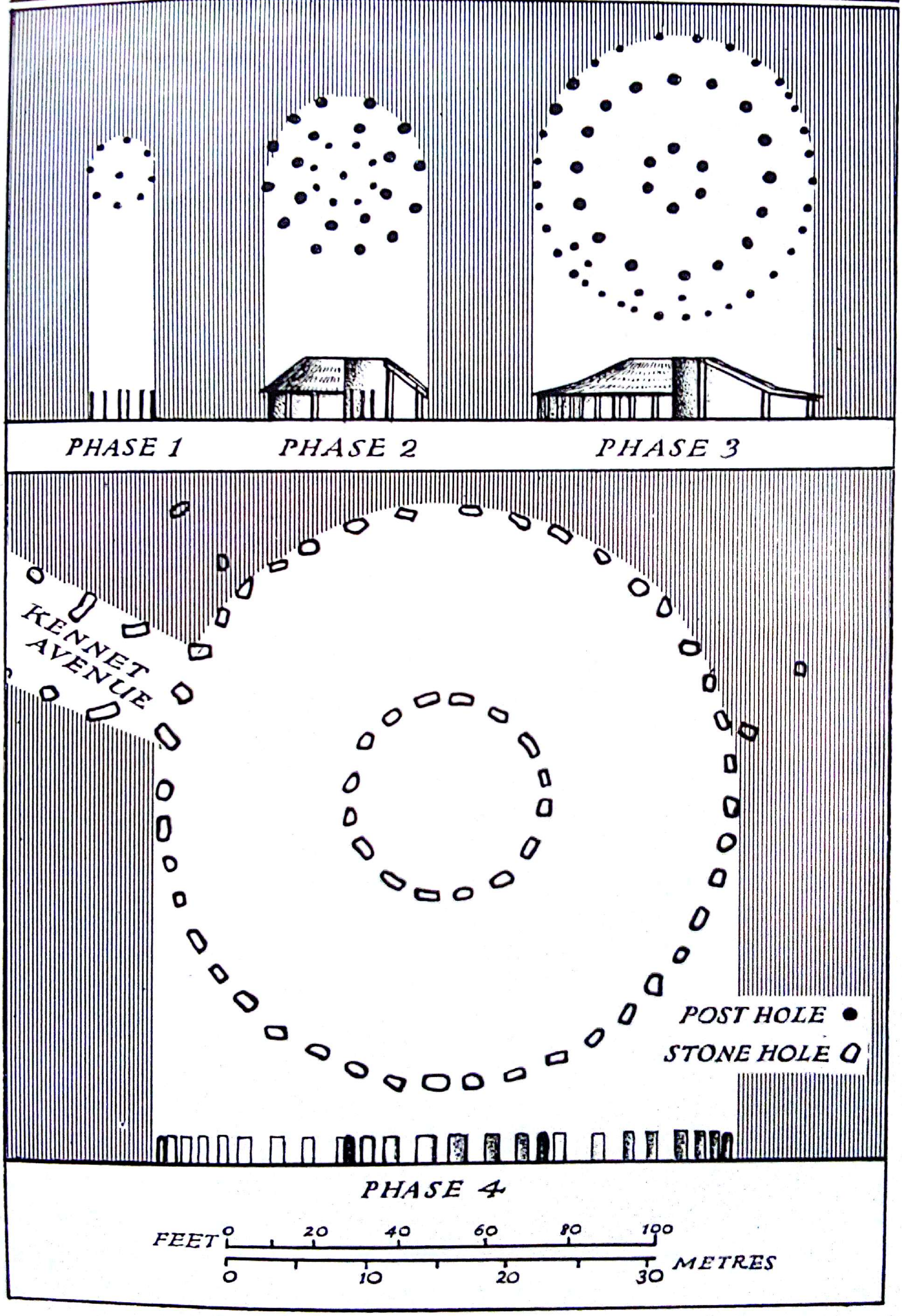
Unlike Woodhenge, where the posts all seem to belong to a single building, the six rings of timbers here probably represent three separate structures built one after the other. The earliest was probably the ring of eight slender posts at the centre, standing as a sacred circle open to the sky. They may well have been carved and painted, like the sacred circles of the Indians of Virginia in the 16th century. The central post may belong with the others, or it may have been used as a centre-point for marking out one of the later buildings.

When the original circle was beginning to show signs of decay, an attempt seems to have been made to protect it by enclosing it in a circular building, whose roof was carried on two new rings of posts (Phase 2). This must have stood for some time, perhaps a couple of generations, as almost all the posts have been replaced as they decayed or became unsafe.

This building in turn was superseded by a larger one, which may also have been open at the centre to admit light and air. This is represented by the first and second ring from the outside, and the central ring of six larger posts (Phase 3). All these structures seem to have been the work of the local Secondary Neolithic population, who also built Woodhenge. They are probably earlier than any of the stone circles at Avebury.

Finally the site seems to have been taken over by the Beaker people, the builders of Avebury, who demolished the third wooden building and erected in its place two concentric circles of sarsen stones (Phase 4). This was probably done at the same time as the building of the Kennet Avenue, which leads up to and ends at the Sanctuary.

THE SANCTUARY


PHASE 1
PHASE 2
PHASE 3
KENNET AVENUE
POST HOLE ●
STONE HOLE
PHASE 4
FEET 0 20 40 60 80 100
METRES 0 10 20 30

Windmill Hill

Windmill Hill is a dome-shaped chalk knoll which rises out of the Kennet valley a mile and a half north-west of Avebury. It can be approached on foot, either from the main Swindon road (A.361) a mile north of Avebury, or by a track leading northwards from Avebury Trusloe.

The top of the hill is crowned by three concentric lines of earthworks forming a 'causewayed camp', so called because the ditches are interrupted by numerous gaps. The site was extensively excavated in the 1920s and has given its name to the Windmill Hill people, the earliest community of Neolithic farmers, who colonised southern England from the Continent about 2400 B.C.

The earthwork enclosure, much of which has been destroyed by ploughing, seems to have been used as a cattle-pound, in which the herds were rounded up in the autumn. The gaps in the ditches cannot all have been entrances, and are probably the result of splitting up the work of digging among several gangs. The banks inside the ditches may have been topped with continuous fences or hedges of thorn.

No trace of houses or any permanent settlement was found inside the earthworks; but in the ditches, and especially in the outer one, the excavators found numerous camp-fires, broken pottery and animals' bones, which suggest that parties of herdsmen used the shelter of the ditches to camp out for a few days each year while the cattle were being rounded up.

Later, after the earthworks had been abandoned, a number of round barrows were built on the hill top by the local Bronze Age population.

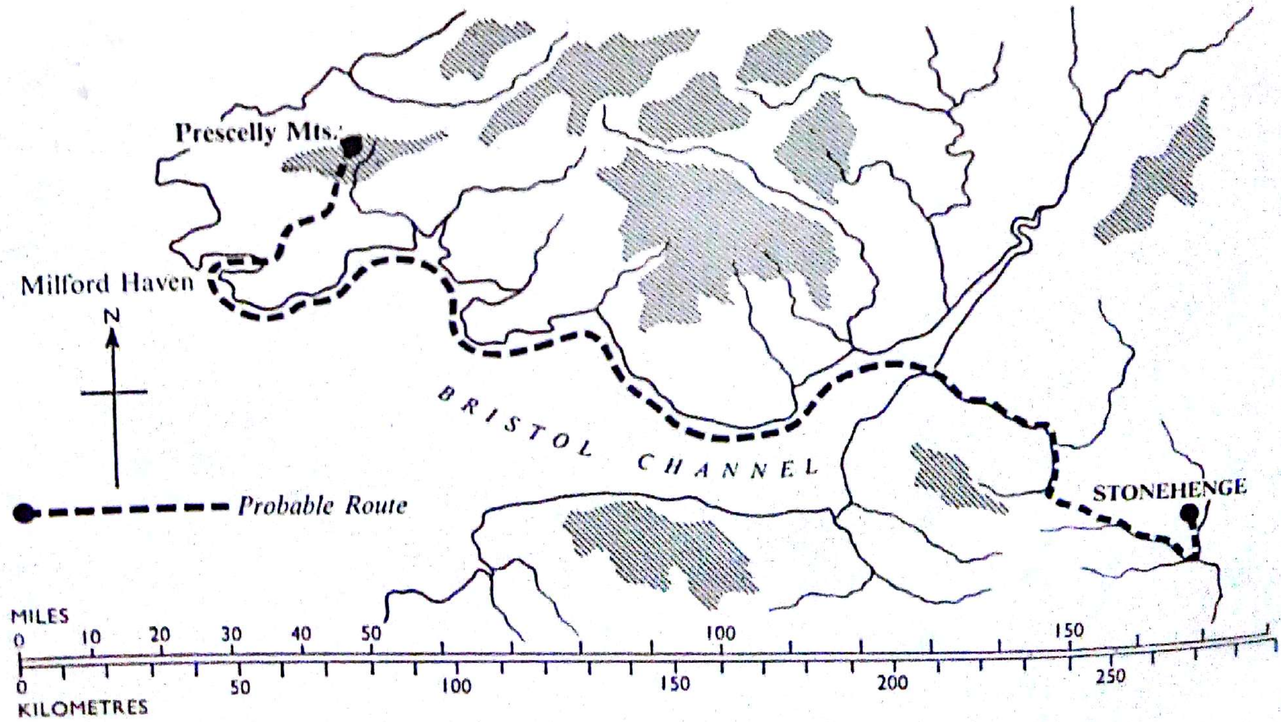
The many objects found in the excavation of Windmill Hill, Avebury and the Kennet Avenue are displayed in the Avebury Museum, which is reached through the churchyard. The finds from the Sanctuary and the West Kennet Long Barrow are in the Museum of the Wiltshire Archaeological Society, Long Street, Devizes.

Windmill Hill seen from the air. Only the excavated parts of the ditches show up clearly, but all three actually run right round the hill top

How were the monuments built ?

The prehistoric monuments described in this Guide are some of the finest and largest of their kind in Britain, and must be counted among the outstanding achievements of primitive engineering in Europe. But unfortunately we know very little about the methods used in their construction, and for the most part we have to rely on guess-work aided by common sense.

The earthworks, large and small, all seem to have been built with the simplest tools. The chalk was loosened with 'picks' made from the antlers of red deer, many of which have been found abandoned on the bottoms of ditches. They were used, not like a modern pick, but as a handled wedge, the point of the 'pick' being driven into the soft rock by blows from a hammer on the back of the handle, which was then levered up to break away the chalk in fragments. Simple rakes, again made from antlers, were used to collect the rubble into heaps, which were then piled into baskets with small shovels made from the shoulder-blades of oxen. The loaded baskets were probably carried on the head, as they still are in many parts of the world; and in the deeper excavations ladders made of notched tree-trunks were doubtless used.

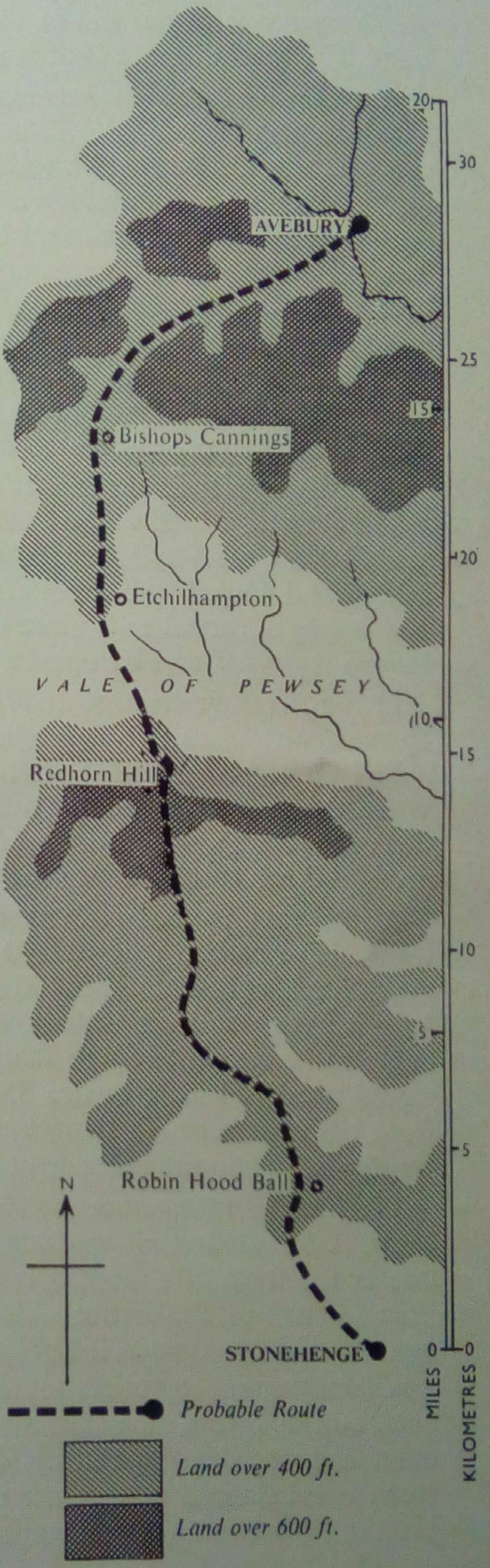


The bluestones were probably carried on rafts from Wales

Modern experiments with copies of these ancient tools have shown that two men, working in turns, can dig out about four cubic yards of solid chalk in a day, and that from two to ten carriers would be needed for each pair of diggers, according to the depth of the ditch, to remove the rubble in baskets and dump it where required. At this rate it would have taken about two hundred people about nine years to build the earthwork at Avebury. To pile up Silbury Hill, nearly fifty million basketfuls of chalk, each weighing about 30 lb., had to be carried up, or passed from hand to hand along a human chain, from the great ditch round its base.

The great posts used in the buildings at Woodhenge and the Sanctuary must all have been cut down and trimmed to shape with axes of flint and stone. Modern trials have shown that these tools, simple and crude though they look, are surprisingly efficient, and in the hands of skilled craftsmen can give results as good as modern tools of steel, though more slowly. On the stones of Stonehenge and the West Kennet Long Barrow there are a number of polished patches where stone tools have been sharpened by grinding during the course of the building work.

The transport and erection of the great stones must have been particularly difficult. The bluestones were probably brought from South Wales to Stonehenge mainly by water, loaded on rafts or boats. The most likely route runs from Milford Haven in Pembrokeshire along the south coast of Wales and up the Bristol Channel to Avonmouth; then up the Avon and Frome rivers to near Frome in Somerset, overland to near Warminster, and thence by the Wylye and the



The sarsen stones were hauled to Stonehenge from near Avebury on sledges and rollers. The best route follows the higher ground

Salisbury Avon to the end of the Stonehenge Avenue near West Amesbury. The total distance is about 240 miles.

In 1954 an experiment was made on the River Avon near Stonehenge, with the help of the BBC Television Service. A copy of a bluestone in concrete was loaded on to a composite boat, made of three copies of prehistoric dug-out canoes lashed together side by side. This vessel was poled up the river against the current by four schoolboys, and could have been handled by only one, if necessary. This kind of boat must certainly have been used for the inland part of the journey, because even when loaded its flat bottom was only 9 inches deep in the water; whereas a raft to carry the same load would have been at least 2 feet deep, and would constantly have run aground in shallow places. But rafts were probably used at sea, because there is no danger of their sinking.

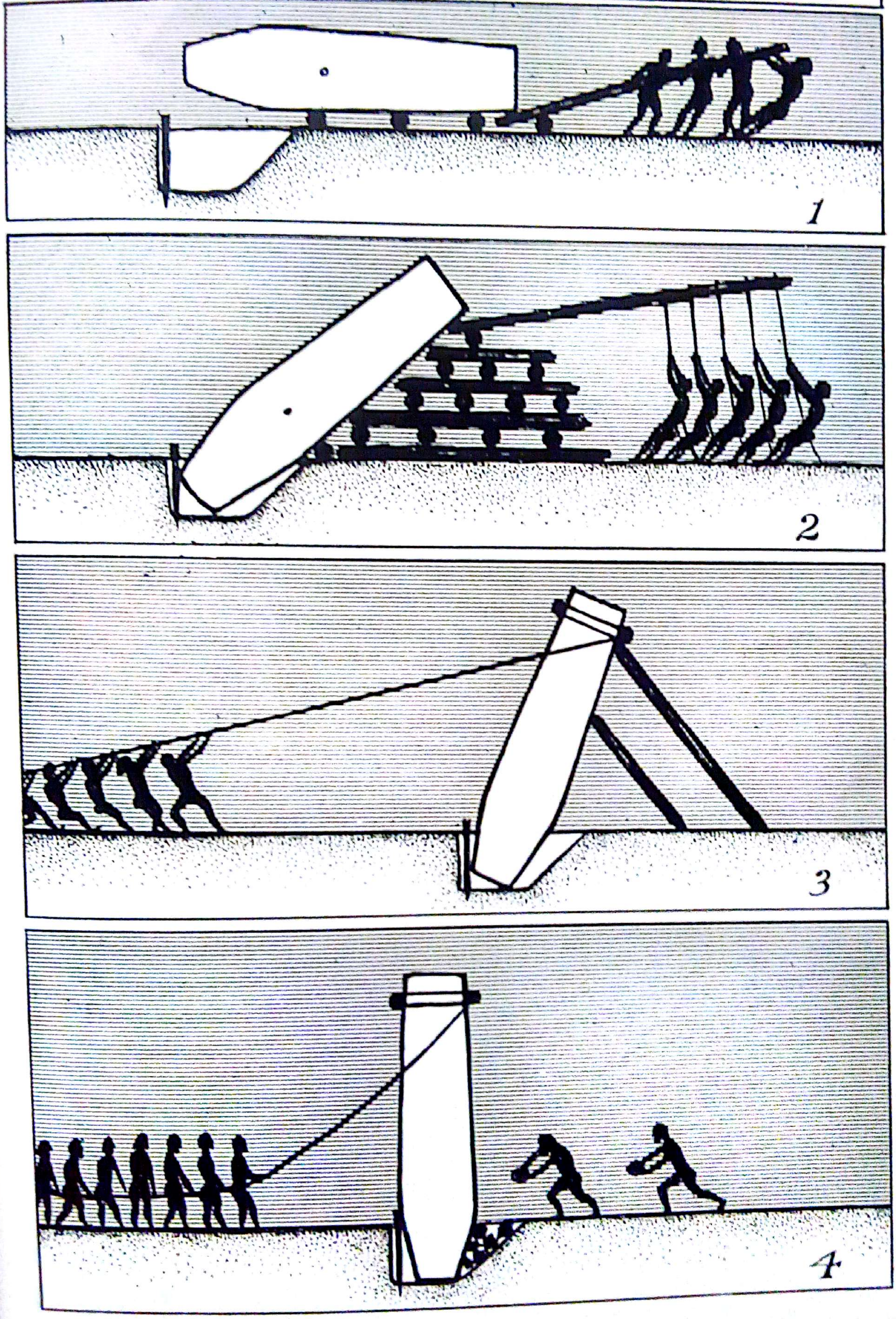
For the great sarsen stones used at Stonehenge and Avebury no suitable water route was available, and they must have been dragged overland all the way, probably mounted on rough sledges running on rollers, and hauled with ropes of leather or cow-hair. To bring the eighty-odd stones of Stonehenge more than twenty miles from the Marlborough Downs may well have occupied a thousand men for several years.

In the same experiment in 1954, the copy of the bluestone, weighing 1½ tons, was loaded on a simple wooden sledge, and this could just be pulled up a gradient of about 1 in 14 (4°) by a party of 32 schoolboys. When the sledge was run on rollers, instead of directly on the grass, the size of the hauling party dropped to 14; and doubtless it could have been brought down to 10 if better and larger rollers had been available.

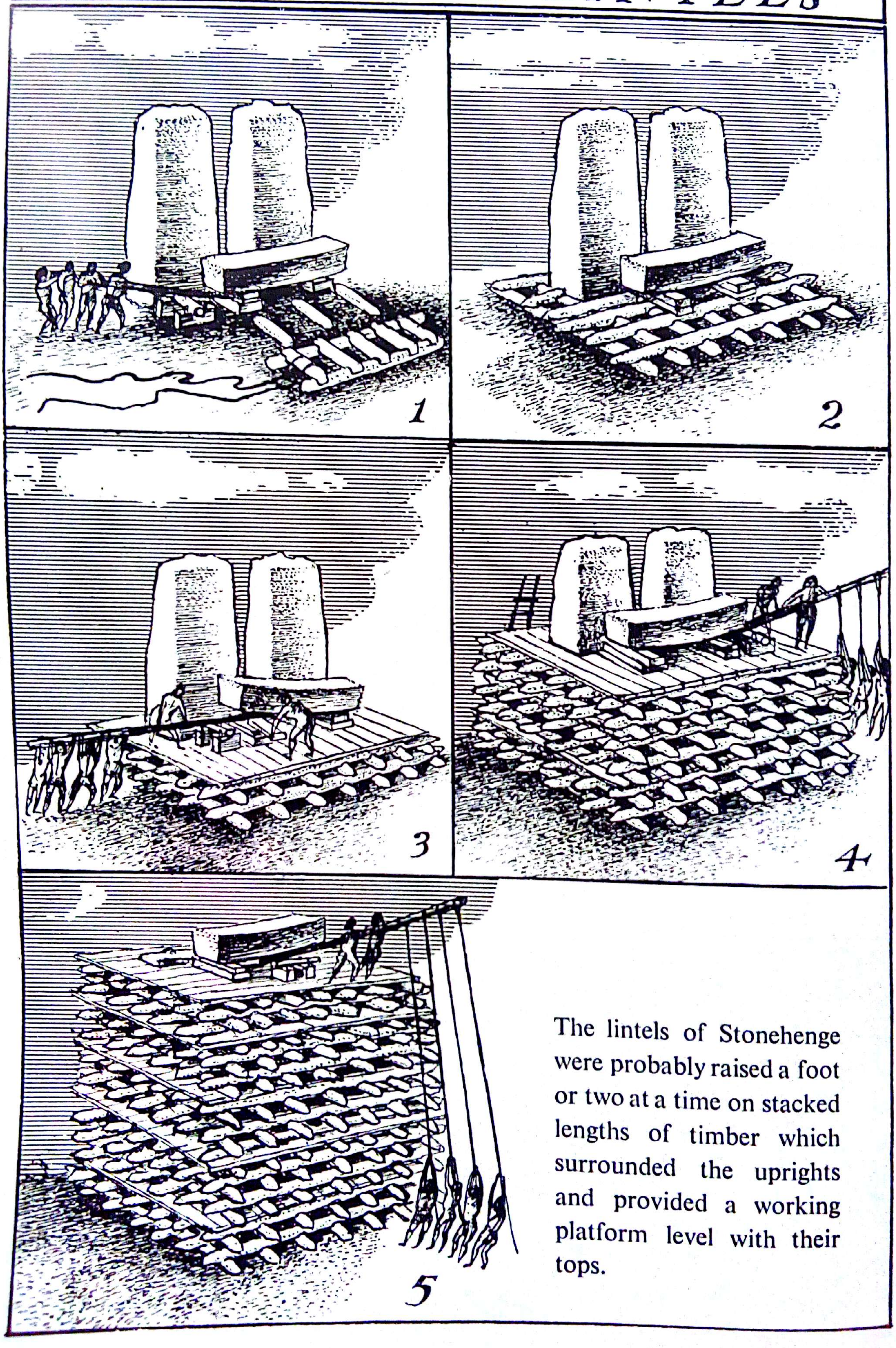
At this rate, the heaviest stone at Stonehenge, weighing about 50 tons, would have needed at least 100 men to pull it along on rollers on flat ground, and at least another 100 to lay the rollers in front of the sledge and keep it from wandering sideways. To pull the stone up the steepest slope likely to be encountered on the journey, with a gradient of 1 in 6½ (9°), would need at least an extra 350 men. The journey with a single stone from the Marlborough Downs to Stonehenge, and back again with the empty sledge and the rollers, must have taken at least two weeks.

The method of erecting the stones seems to have been the same in all cases. A foundation pit was dug, with one side vertical and the opposite one in the form of a sloping ramp. Stakes, stripped of their bark, were driven in against the vertical side to protect the chalk from being crushed by the toe of the stone as it was gradually raised. The stone, base foremost, was then moved on rollers towards the ramp, until its toe was over the hole, and its centre of gravity was just behind the leading roller (1). The outer end was then levered up, dipping the base into the hole, until the stone overbalanced at the last moment and came to rest in a leaning position. Next, with levers resting on timber packing (2), it was raised a

RAISING THE SARSENS



RAISING THE LINTELS



The lintels of Stonehenge were probably raised a foot or two at a time on stacked lengths of timber which surrounded the uprights and provided a working platform level with their tops.

few inches at a time and held in place with struts when the packing had to be adjusted (3). Finally the stone would be pulled upright by gangs of men hauling on ropes (4). To raise a stone of the outer circle at Stonehenge would need about 200 men.

To help in adjusting the position of the stones, their bases were left in the form of a blunt point, on which the mass could pivot; and when the final adjustment had been made the hole was rapidly filled and rammed tight with whatever lay at hand including, at Stonehenge, many of the stone hammers previously used in dressing the surfaces of the stones.

The capstones of the tomb at West Kennet were probably hauled into position only when the surrounding mound had been piled up to the level of the tops of the walls, which would meantime have been strutted with timber. But at Stonehenge there was no mound, and here the lintels must have been raised gradually by means of levers and a crib. This is a kind of tower, built of alternate layers of timber running in opposite directions. The lintel would first be raised a foot or two on temporary supports. The lowest layers of the crib would then be laid around and beneath it, and planked over on top. The weight of the lintel would then be transferred with levers to this planking, and the whole process repeated until the stone was level with the tops of the uprights and could be levered sideways into position.